

## Work plan: The Fifth Ward Community Survey and Monitoring Project

### A. Project Title and Project Purpose Statement

This project is titled the Fifth Ward Community Survey and Monitoring Project. Fifth Ward is located just east of Houston's bustling downtown and north of the Houston Ship Channel. Originally settled by former slaves after the Civil War, Fifth Ward is a historically African-American district that has long been home to Houston's minority and immigrant populations. For decades, the area had been a hub of industrial activity. Metal casting foundries created parts for industrial, railroad, and mining operations across the country and chemical recycling facilities stored thousands of catalyst drums. In recent decades, the community has been in extended decline, wrestling with widespread poverty and other socioeconomic challenges.

Residents of Fifth Ward, like other portside communities, face many environmental and health challenges. This project will help the residents of Fifth Ward to identify and address these challenges through a community health survey and air-monitoring project. Specific project goals include: conduct a survey to identify community challenges and resources; use the survey results to educate residents about their community, and identify potential pollution hotspots for further study; recruit and train volunteers in the use of small-scale community-led air monitoring techniques; carry out a year-long program of air quality monitoring through sampling and analysis; empower community leaders with data they can use to advocate for their communities. The project is modeled after a similar project conducted by Air Alliance Houston in a nearby environmental justice community – Galena Park, TX.

This project will take place in the portside community of Fifth Ward, which is wholly contained within ZIP codes 77020 and 77026. Proposed boundaries for the project area are as follows:

- Northern Boundary: Collingsworth St.
- Eastern Boundary: Lockwood Dr.
- Southern Boundary: Houston Ship Channel
- Western Boundary: Jensen Dr.

The project is related to Clean Air Act Section 103(b)(3), which authorizes the Administrator of the Environmental Protection Agency ("EPA") to make grants to nonprofit organizations for purposes stated in Clean Air Act Section 103(a)(1):

[To] conduct, and promote the coordination and acceleration of, research, investigations, experiments, demonstrations, surveys, and studies relating to the causes, effects (including health and welfare effects), extent, prevention, and control of air pollution[.]

42 U.S.C. § 7403(a)(1).

### B. Environmental and Public Health Information about the Affected Community

Fifth Ward faces a number of local environmental and public health issues. Fifth Ward is one of Houston's largest neighborhoods. It is located on the Houston Ship Channel amidst one of the largest refining and chemical manufacturing complexes in the world. Portside communities

such as Fifth Ward are primarily minority and low-income; they face many environmental health hazards presented by the large and growing industry that surrounds them and exemplify the definition of environmental justice.

Advocacy efforts in and around Fifth Ward and the Houston Ship Channel come from many local organizations, including Air Alliance Houston (AAH), Texas Environmental Justice Advocacy Services (TEJAS), the Texas Organizing Project (TOP), Coalition of Community Organizations (COCO), and the Fifth Ward Super Neighborhood Council. AAH, COCO, and TEJAS hold an annual Environmental Justice Encuentro that has become an extraordinarily successful means for environmental and community organizations local to the Houston region and the Texas Gulf Coast to gather, build coalitions, further collaborative efforts and also to increase the participation in work in the Houston area. The Encuentro is also responsible for the development of the Texas Healthy Port Communities Network. Fifth Ward residents also participate in the Houston Community Advisory Panel (CAP), a partnership between the community and industry on issues of public health, safety, and the environment. Currently, the Houston CAP has six industry members and meets nine times a year.

The residents of Fifth Ward are primarily lower-income and minority individuals. Many residents who will be served by this project reside in Census Tracts 2102, 2108, 2111, 2112, 2113, 2114, and 2115. The City of Houston Department of Planning's 2014 Community Assessment<sup>1</sup> produced the following demographics for those tracts:

<b>Subject</b>	<b>Fifth Ward</b>
Total Population	20,106
Persons <18 yrs. of age	30%
Hispanic or Latino	42%
African-American	53%
Lang. other than English	18%
Median Household Income	\$20,870
Below Poverty Level	46%

Fifth Ward and its citizens disproportionately suffer the negative effects of the intense industrial development in the area. A City of Houston Department of Health and Human Services Community Health Profile completed in 2003 reported that within one mile of Fifth Ward, there are 59 Toxic Release Inventory reporting facilities, 13 Large Quantity Generators of hazardous waste, 4 facilities that treat, store, or dispose of hazardous waste, 7 major dischargers of air pollutants, 2 major storm water discharging facilities, and 4 current Superfund sites, 3 of which are on the National Priorities List managed by the EPA.<sup>2</sup> All of these environmental factors are in addition to two large rail yards and train tracks that run throughout the community.

Fifth Ward's proximity to the Houston Ship Channel is also important to note. The Port of Houston is one of the largest in the world, handling approximately 70% of the containerized

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<sup>1</sup> [http://www.houstontx.gov/planning/Demographics/docs\\_pdfs/SN/55\\_Greater\\_FifthWard.pdf](http://www.houstontx.gov/planning/Demographics/docs_pdfs/SN/55_Greater_FifthWard.pdf)

<sup>2</sup> <http://www.houstontx.gov/health/chs/Greater%20Fifth%20Ward.pdf>

cargo entering the Gulf of Mexico. Fifth Ward and its residents suffer the negative environmental effects of this traffic. These include emissions from barge traffic, truck and rail traffic, and stationary engines used for loading and unloading. These effects will be magnified by the imminent expansion of the Panama Canal and the planned increase of United States coal exports.

Fifth Ward residents will benefit from this project in several ways. Beginning with the community survey, residents will organize and empower themselves to address the environmental and health concerns they identify. The survey and the mapping workshop will help residents understand the challenges they face and the resources that are available to them. Once community members are aware of the common challenges they face, they are better able to address those challenges as a community. Similarly, resources that are widely recognized as available in a community are better utilized.

The community survey and the mapping workshop will help to identify pollution hotspots and potential locations for air monitoring. The mapping workshop also includes a “groundtruthing” exercise where participants will physically explore their neighborhood to verify community perspectives and contexts. Community volunteers will then work with Air Alliance Houston to conduct a yearlong monitoring program. The data they collect will provide Fifth Ward residents with useful information about their community. For example, residents are often aware that pollution emissions are taking place, but they don’t know what those emissions are or who is responsible for them. A community-led monitoring project can help to sort out both what is in the air, and where it is coming from. Once residents know these things, they are better able to address the challenges they face and advocate for their own environmental health.

### **C. Organization’s Historical Connection to the Affected Community**

Air Alliance Houston is the Houston region’s air quality and public health advocacy organization. Since our creation in 1988—as the Galveston-Houston Association for Smog Prevention (GHASP)—it has been our goal to improve air quality for every resident of the greater Houston area. Our efforts naturally focus on the most at-risk, overburdened communities in the region, such as those along the Houston Ship Channel. The communities in these areas, particularly those that are predominantly minority and of a lower socioeconomic status, receive the majority of our advocacy and air quality research efforts.

The Fifth Ward Community Survey and Monitoring Project will include partnerships with local community leaders, organizations, and resource centers with which Air Alliance Houston has ongoing relationships. These include COCO’s founder and President, Reverend James Caldwell, the Fifth Ward Super Neighborhood President Kathy Blueford Daniels, the Fifth Ward TOP chapter, the Fifth Ward Multi-Service Center, the Fifth Ward Neighborhood Center, and local health clinics and churches. This project is modeled after a similar project in Galena Park, TX, which included partnerships with TEJAS and TOP.

COCO is the product of Rev. Caldwell’s lifelong mission to transform Fifth Ward into a healthy and thriving community. COCO’s primary role is serving as a bridge to valuable

community resources and information. COCO has a deeply rooted presence in the Fifth Ward and continues to empower its residents. TEJAS works with fenceline communities along Houston's petrochemical corridor and advocates on their behalf at the local, state, national, and international level. TOP has a citizen base of 800 community members in the City of Houston and surrounding communities. TOP actively builds a base of supporters and activists through community events, petitions at local schools, targeted door knocking, house meetings, and workshops.

Fifth Ward residents are already part of the decision-making process for environmental advocacy in their region. As a result of Air Alliance Houston's recommendation, Fifth Ward community leader Rev. James Caldwell sits on the Port of Houston Authority Chairman's Citizen Advisory Council. Air Alliance Houston and its partner organizations seek to empower Texans to stand together and protect themselves. Air Alliance Houston gives Fifth Ward and other environmental justice communities a place to voice environmental concerns outside of government or industry forums.

Air Alliance Houston's position in the greater Houston community gives environmental justice communities increased capacity to address their environmental and public health concerns. AAH's greatest strength is its unique position as a bridge between Houston's local communities and state and national priorities, between the grassroots and the treetops, between science and community health, between policy craft and regulatory enforcement. It is because of an impeccable reputation locally and nationally as a pragmatic, thoughtful, well-researched, and community-grounded advocacy organization that AAH is able to successfully bridge these divides.

A sustained and ongoing relationship with all of Houston's environmental justice communities—including Fifth Ward—is essential to AAH's effectiveness. This is one reason that we maintain partnerships with local organizations. Air Alliance Houston is not a membership organization, but as mentioned above, organizations like COCO, TEJAS, and TOP provide a closer tie to the communities we serve.

In short: Air Alliance Houston and its partners provide the expertise in community organizing and environmental monitoring that helps an environmental justice community become its own most effective advocate.

## **D. Project Description**

### **i. Project Activities**

This project is modeled after a similar project Air Alliance Houston undertook during 2012-13 in another Houston environmental justice community: Galena Park.<sup>3</sup> As a result of that project's success, Air Alliance Houston has received funding to start a similar project in Pasadena, TX over the next two years. Just as both of these aforementioned projects, the ultimate environmental/public health result of Fifth Ward Community Survey and Monitoring

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<sup>3</sup> <http://www.airalliancehouston.org/wp-content/uploads/Galena-Park-Monitoring-Report-FINAL.pdf>

Project will be improvements to air quality, public health, and quality of life. The project will achieve this result in a number of ways.

The project begins with a community survey to be conducted during the fall of 2015. The survey covers several areas: community healthy, perception of environmental threats, use of public spaces and public infrastructure, and overall quality of life. We start by informing residents about the upcoming survey through several means. We distribute “resource packets” that contain information about public health and environmental issues, voter registration cards, and information about locally available social services. AAH and our partner organizations also spread the word about the survey by giving presentations at community meetings, engaging community leaders, and announcing the survey on websites and public marquees maintained by area schools and community centers. An immediate benefit of this preparation for the community survey is increased awareness of social services already available to Fifth Ward residents, in addition to a greater overall inclination towards participation. This same method is largely responsible for the thirty percent response rate we achieved with our Galena Park survey.

Community members who conduct the survey also receive valuable education and lessons on community empowerment. Survey conductors learn firsthand about their community and the challenges its residents face. This leads to an appreciation that many health and environmental issues are shared in common by community members and also helps the surveyors and partner organizations understand the community to a much greater degree.

The survey conductors will focus on homes closest to rail yards, the ship channel, and the interstate highway. The project goal is to complete at least two hundred surveys. After the survey is completed, the results are analyzed and a report is produced. As the report is disseminated, residents learn that many of the challenges they face as individuals are actually shared in common. This empowers the community—particularly community leaders—to begin concerted efforts to address those challenges. Although Air Alliance Houston is primarily an air quality organization, it is our belief that no single challenge faced by an environmental justice community can be addressed in a vacuum. For that reason, a component of this project will be to enable residents to address other challenges they face, such as poor quality housing and limited access to health care, public transportation, and nutritional food.

Finally, the survey helps us to begin to identify pollution hotspots for potential monitoring and to enlist volunteers for the monitoring phase of the project. We find that public buildings such as schools often serve as excellent locations for monitors—parents like to know what their children are breathing.

The second phase of the project is the yearlong collection of air monitoring data. The monitoring project will use locations and volunteers identified during the community survey. We will select five locations throughout Fifth Ward. There are several monitors that will be deployed at each site. We have a Dust Track II that we use to sample particulate matter 2.5 microns or smaller in diameter (PM<sub>2.5</sub>) concentrations at five minute intervals for a 24-hour period. We also have two MiniVol TAS particulate monitors. We use a Teflon filter in one that gives us overall PM<sub>2.5</sub> concentrations and is also speciated for numerous metals. In the other MiniVol we use a quartz filter that gives us information about organic and elemental carbons that will help describe

diesel emissions in the survey area. We also gather meteorological data from independent sources. With these tools we can learn a great deal more than just the ambient concentration of PM<sub>2.5</sub>. For example, we can use the constituents of the particulate matter correlated to the five-minute interval samples along with wind speed and direction data to narrow down the likely sources of air pollution.

Each of the five selected sites will be monitored for 24 hours at a time. We move the monitors from one site to the next over the course of a week. Delays can occur due to unfavorable weather conditions (excessive rain). After each of the five sites is sampled, we mail the collected samples to a lab for analysis. This process is repeated amounting to eight sampling runs over the course of a year. After all of the data is collected and analyzed by a lab, we use an expert to interpret the laboratory results.

The result is valuable data that gives us a clearer picture of the air pollution profile of a community. We estimate that the community survey will take 2 to 3 months to conduct.

Community participation is an important component of this project. Community members enlisted during the community survey will participate in a community mapping and monitor training workshop. For the Galena Park project, the community mapping and the monitor training were conducted in separate workshops. We partnered with Global Community Monitor (“GCM”) to conduct the monitor training workshop. GCM is a nonprofit organization formed in 2001 that trains and supports communities in the use of environmental monitoring tools to understand the impact of fossil fuel industry pollution on their health and the environment. The community mapping workshop was conducted with the help of GCM and representatives from the Community Strategies for Sustainability and Justice Program. Although our relationships with these organizations are ongoing, we now have the knowledge and experience to conduct these training workshops ourselves. For the Fifth Ward project, we will combine the community mapping and monitor training into one workshop. Participants who complete the workshop will receive a stipend.

Community mapping and groundtruthing give residents ground-level knowledge about their community. Participants map out community treasures of past and present, environmental hazards that affect health and quality of life, and opportunity sites that can be used for community revitalization. Community mapping also helps to identify potential pollution “hot spots”—areas in the community where our monitors should be placed.

The workshop also trains community participants in the use of air monitoring equipment. Participants learn how the air monitors function and how to properly operate them. The first monitoring runs in the community are actually conducted during the training workshop. Community participants help Air Alliance Houston staff to set up and take down the monitoring equipment. One goal of the workshop is to enlist 3-5 community members who will continue to volunteer to help with the monitoring project throughout the year. We find that hands-on workshops like these are very empowering, leading to increased participant enthusiasm and satisfaction with the project. The training workshop culminates in a community meeting that informs residents about the beginning of the community-led air monitoring program in Fifth Ward.

There are several ways that this project will increase Fifth Ward's capacity to address local environmental and public health issues. A key feature of a community-led monitoring project is that the data collected is not owned by industry or the government. Right now in Fifth Ward, there are no regulatory monitors that deliver data to the Texas Commission on Environmental Quality.<sup>4</sup> Often, communities that begin advocating for local environmental and public health issues are met with resistance from all sides. Advocacy can be difficult without the means to counter, for example, the claim that air is healthy because there is no data showing violations of air quality standards. A community with its own data has more leverage in addressing its own environmental and public health issues.

Both the air monitoring project and the preceding community survey are commiserate with the goal of Clean Air Act section 103(b)(3) which authorizes the EPA Administrator to make grants to nonprofit organizations for purposes stated in Clean Air Act section 103(a)(1):

[To] conduct, and promote the coordination and acceleration of, research, investigations, experiments, demonstrations, surveys, and studies relating to the causes, effects (including health and welfare effects), extent, prevention, and control of air pollution[.]

42 U.S.C. § 7403(a)(1). Both phases of the project will collect data about the sources of air pollution, the amount of pollution exposure to the community, the extent and variation in pollution levels within the community, and potential strategies to control and reduce pollution. This is well illustrated in the results from the Galena Park project.

## **ii. Air Alliance Houston and its Partners**

This project will continue ongoing partnerships that Air Alliance Houston enjoys with several other organizations. Air Alliance Houston brings expertise in air pollution research, education, and advocacy. Our partnerships with community-based organizations such as COCO, TEJAS, and TOP help us to use that expertise at the grassroots level. Whereas AAH is not a membership organization, COCO is comprised of active and engaged Fifth Ward residents. In addition, TEJAS has a network of port communities developed over three decades of environmental justice advocacy and TOP has a citizen base of 800 community members in the City of Houston and surrounding communities.

The mission of COCO is to assist Fifth Ward residents with creating a healthy and thriving community by working together with engaged stakeholders. After decades of community advocacy, COCO has become a trusted and reliable resource. The mission of TEJAS is to provide community members with the tools necessary to create sustainable, environmentally healthy communities by educating individuals on health concerns and implications arising from environmental pollution. The mission of TOP is to improve the lives of low to moderate income Texas families by building power through community organizing and civic engagement. All three of these organizations work to ensure that all Texans have the opportunity to live in healthy communities, have increased opportunities for their families and children, and have the ability to exercise their voice and power in the decision-making processes in Texas.

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<sup>4</sup> <http://tceq4apmgwebp1.tceq.texas.gov:8080/geotam/>.

We will also continue our partnership with GCM, an organization that trains and supports communities in the use of environmental monitoring tools to understand the impact of fossil fuel industry pollution on their health and the environment. As explained above, GCM provides expertise in community monitoring projects; GCM led our training workshops in Galena Park in 2012. For this project, we will be using what we have learned with GCM to lead our own training workshop. GCM will still be available for technical assistance and interpretation of laboratory analysis results.

Our local partners have a vested interest in maintaining a partnership with us as the leading air quality advocacy organization in the Houston area. Air Alliance Houston brings resources and expertise that are essential for effective local environmental and public health advocacy. The partnerships proposed for this project are simply the next phase in ongoing working relationships.

#### **E. Organizational Capacity and Programmatic Capability**

Air Alliance Houston adheres to all Generally Accepted Accounting Principles and uses a modified cash-basis of accounting. We use the secure cloud-based version of Intuit QuickBooks with all requisite hard copy backups stored in our main office location. AAH retains an accounting firm that specializes in nonprofit accounting. Internally, AAH's Board of Directors reviews organizational accounts during their quarterly meetings. Air Alliance Houston also employs a restricted class-based hierarchy of accounts, which ensures that restricted sources of funding, such as those received through this RFP, are only expended for appropriate program-related functions. In the past, this system has ensured appropriate management, expenditure, and reporting of several restricted sources of funding, including federal funding.

This project is modeled after a similar project Air Alliance Houston undertook during 2011-12. AAH conducted a community health survey, community mapping workshop, and yearlong air monitoring project in another environmental justice community, Galena Park, located east of Fifth Ward. The Fifth Ward project builds on our experience in Galena Park, as has been illustrated throughout this workplan.

During our Galena Park project, we worked closely with Global Community Monitor, a nonprofit organization that trains communities in the use of environmental monitoring tools. GCM's executive director, Denny Larson, led our Galena Park training workshops; he and his staff also provided technical assistance throughout the project. Our partnership with GCM will continue through the Fifth Ward project, but they will take a more limited role. We will conduct the Fifth Ward workshop without Mr. Larson's assistance. We will continue to use Mr. Larson and GCM for technical assistance.

We are fortunate in that our Community Outreach Coordinator, Brian Butler, has an existing professional relationship in Fifth Ward. Mr. Butler has developed close professional ties with community leaders and organizations in Fifth Ward. His contacts, as well as the community organizing infrastructures of COCO, TEJAS and TOP, will form the basis of our relationship to the Fifth Ward community during this project.



With Air Alliance Houston's experience, the strong connections COCO has with Fifth Ward residents, GCM's technical assistance, and TEJAS' and TOP's community infrastructure, we will achieve the goals of our project. Those goals are (1) to conduct a successful community health survey that identifies the community's resources and challenges; (2) conduct a community mapping and monitor training workshop that builds a network to assist with the monitoring project; and (3) conduct a community-led year-long air monitoring project. The community health survey will follow the same model as the survey conducted in Galena Park. The monitoring project will be conducted by Air Alliance Houston in conjunction with our community participants. We will continue to use GCM for technical assistance, but they will not be present at our training workshop.

The goals of this project are also embodied in the outputs and outcomes outlined in the logic model that accompanies this application. Briefly, they are: distribute resource packet and raise community awareness about the project; conduct a community survey focusing on homes near known pollution sources; community profile developed from surveys; community map of resources, challenges, and "hot spots;" 5-10 possible locations for monitoring; 3-5 community volunteers for ongoing monitoring; community-owned raw monitoring data; analysis and profile of community air quality; community empowered with air quality data; increased community effort to address environmental and health issues.

Air Alliance Houston has received several federal grants/cooperative agreements in the last five years. Most recently, we received a Research Project Grant from the National Institutes of Health for \$315,777. The project is titled, *Sustainable Solutions for Metal Air Pollution in Disadvantage Neighborhoods*. The project uses a mixed methods approach to determine the environmental risks associated with exposure to emissions from metal recyclers, develop a public health action plan, and evaluate the effect of the action plan in reducing ambient air pollution levels and improving awareness among metal recyclers and policy makers. Prior to that, we received an Environmental Justice Collaborative Problem-Solving Grant from EPA for \$11,500 that funded a December 2011 encuentro, titled "Beyond Translation Encuentro – Focusing on Port Communities." That grant required a Federal Financial Report, which was completed in March 2012. The assistance agreement number was Catalog of Federal Domestic Assistance (CFDA) number 66.306.

In August 2011 we received a \$10,000 grant from the Center for Disease Control's Healthy People 2020 initiative to fund a two-day meeting of the Texas Healthy Port Communities Network during our annual Environmental Justice Encuentro. The grant required a report that was produced by Rosalia Guerrero. The assistance agreement number was CFDA number 93.161.

#### **F. Qualifications of the Project Manager (PM)**

The project manager for the Fifth Ward Community Survey and Monitoring Project is Adrian Shelley, the Executive Director of Air Alliance Houston and its lead policy director. Mr. Shelley represents AAH in collaborative efforts with both government and industry leaders as well as other non-profit organizations and community groups. He has been a key participant in the Galena Park survey and monitoring project that is the model for this proposed project. Mr.

Shelley will lead the training workshop and community meeting that will initiate the monitoring phase of the project.

#### **G. Past Performance in Reporting on Outputs and Outcomes**

Air Alliance Houston regularly applies for and receives grants. Our Galena Park project was funded in part by a Houston Endowment grant called the Port Community Collaboration Project Grant. The point of contact for that grant was our Community Outreach Director Bel Vasquez. After the community survey and mapping portion of that project was completed, Ms. Vasquez produced a progress report that was a condition of the grant. That report included metrics such as the number of workshop attendees, number of door knocks by surveyors, and number of completed surveys. It was this report that led us to set a goal for this project of thirty percent of households completing the community survey.

In August 2011, Air Alliance Houston applied for and received a \$10,000 grant from the Center for Disease Control's Healthy People 2020 initiative (CFDA number 93.161) to fund a two-day meeting of the Texas Healthy Port Communities Network during our annual Environmental Justice Encuentro. That meeting took place in May 2012. Between February and May, Air Alliance Houston's Community Liaison, collected outcome data from each participating organization that implemented the work plan developed at the meeting. That data was used to produce a report that was shared with project partners, the community, and the funder.

In July 2012, Air Alliance Houston was one applicant for a Houston Endowment grant that also included Public Citizen, TEJAS, and TOP. That grant, in the amount of \$270,000 a year for three years, funds the Healthy Port Communities Coalition, which is designed to clean up pollution at the Port of Houston. Air Alliance Houston also submitted a grant in conjunction with TEJAS for the Texas Healthy Port Communities Network. That grant, by the Kresge Foundation, funds the network for three years at approximately \$100,000 per year.

#### **H. Quality Assurance Project Plan (QAPP) Information**

This project will involve the collection of new data through the use of air monitors. If this project is selected for funding, Air Alliance Houston will develop a Quality Assurance Project Plan before initiating project activities.